

Town of Belmont, Massachusetts

Postemployment Benefits Other Than Pensions (OPEB)

Presentation to Board of Selectmen

December 21, 2015

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Agenda

- Introduction
- Current Accounting Standards – GASB 45
- Future Accounting Standards – GASB 75
- GASB 45 Actuarial Valuation
 - Census Data
 - Plan Provisions
 - Actuarial Assumptions
- Summary of Key GASB 45 Results
- Controlling OPEB Costs
- Controlling OPEB Liabilities
- New GASB Standard - GASB 75
- Belmont OPEB Liability Forecasts
- Questions

Introduction

- Linda L. Bournival, FSA, EA, MAAA
 - Strong Actuarial Credentials
 - Fellow of the Society of Actuaries
 - Enrolled Actuary under ERISA
 - Member of the American Academy of Actuaries
 - Fellow of the Conference of Consulting Actuaries
 - Over 25 years of Actuarial & Benefits Consulting Experience
 - Public Pension valuation and consulting experience
 - Conducted actuarial audits of large state pension and healthcare systems
 - Retiree healthcare experience
 - GASB 45 for Cities, Towns, Counties, School Districts, Enterprise Units, Housing Authorities and a state university system
 - FAS 106 for private-sector clients

Current Accounting Standards

GASB 45

- Accrual accounting for **O**ther **P**ost **E**mployment **B**enefits (**OPEB**)
- Benefits valued are retiree medical, dental, life insurance, etc.
- Establishes standards for measurement, recognition and display of OPEB expense and liabilities in the financial statements of governmental employers
- Perform actuarial valuation *every other year*
 - Develop expense called Annual Required Contribution (*ARC*)
 - Normal Cost
 - 30-year open amortization of the Unfunded Actuarial Accrued Liability (*UAAL*)
 - 30 years is reset at each valuation

Current Accounting Standards

GASB 45

- Disclose information about plan, plan assets and liabilities
- Net OPEB Obligation (NOO) is cumulative difference between ARC and actual contributions
- GASB 45 **does not** require funding OPEB liabilities, just reporting them
- No current requirement or statute under M.G.L. for prefunding OPEB
- M.G.L. Chapter 32 requires Belmont Retirement System to be fully funded by 2040
- Belmont Retirement System expected to be fully funded by 2028

Future Accounting Standards

GASB 75

- GASB 45 will be replaced by GASB 75
- Beginning with fiscal year ending June 30, 2018
 - New OPEB expense
 - Actual unfunded OPEB liability reported on employer's balance sheet
 - No change to GASB position that funding is a policy decision for government officials to determine

GASB 45 Actuarial Valuation

- Develop a model to calculate liabilities and other costs for GASB 45 expense and disclosure
- Model consists of
 - Census data
 - Plan provisions
 - Economic assumptions
 - Demographic assumptions
 - Actuarial Methods
- Purpose of valuation is to provide GASB 45 required financial statement disclosures
 - May not be appropriate for other purposes

GASB 45 Actuarial Valuation

- Compliance standards
 - Government Accounting Standards Board
 - GASB pronouncements generally apply to the financial reports of all state and local governmental entities
 - Generally Accepted Accounting Principles (GAAP)
 - Common set of accounting principles, standards and procedures that companies use to compile their financial statements
 - American Academy of Actuaries
 - Membership in the Academy includes a responsibility and willingness to comply with
 - Code of Professional Conduct
 - U.S. Qualification Standards
 - U.S. Actuarial Standards of Practice (ASOPs)

Census Data

	July 1, 2014
Active employees	801
Retired employees	491
Covered spouses	200

- Includes “potentially eligible” employees
 - Generally those covered under Belmont and Mass Teachers Retirement Systems
 - Valuation includes “participation rate” to estimate those future retirees electing coverage under health and life insurance
- Includes retired employees and covered spouses covered under health insurance and/or life insurance



Plan Provisions

- Eligibility based on Belmont and Massachusetts Teachers Retirement Systems' eligibility rules
- Health plans
 - Pre-Medicare plans for under 65 and non-Medicare eligible
 - Medicare supplemental plans for 65+, Medicare-eligible
 - State law requires Medicare-eligible retirees to elect
- Retirees contribute 20%-50% of health insurance premium
 - Depending on plan coverage selected
 - Chapter 32B of M.G.L. limits retiree contribution to 50%
- \$2,000 life insurance coverage
- Medicare Part B Reimbursement
 - 50% of monthly premium (50% of \$104.90)
- Medicare late enrollment penalty reimbursed

Actuarial Assumptions

Discount Rate

- Prescribed by GASB 45
 - “estimated long-term investment yield on the investments that are expected to be used to finance the payment of benefits”

	Pay-As-You-Go	Partially Funded	Full Pre-Funding
Discount rate	Must use rate close to return on cash 3.75% - 4.25%	Blended rate, depending on investment policy and amount of partial prefunding	Allows use of higher discount rate, depending on investment policy 6.5% - 7.5%
Funding Policy	Pay premiums as they become due (PAYG)	PAYG plus partial prefunding to Trust	Full funding at least equal to ARC
Net OPEB Obligation (NOO)	Multiplies rapidly	Controlled	No additional Net OPEB liabilities to report
OPEB Irrevocable Trust	None	Required	Required

Actuarial Assumptions

Health Care

- Health care cost trend rates
 - 8% year 1, declining 1% per year to ultimate rate of 5%
- Participation rate
 - 90% of eligible employees will elect coverage
- Spouses covered
 - 50% of covered retirees will elect spousal coverage

Actuarial Assumptions

Demographic

- Assumptions other than health care related
 - consistent with Belmont Retirement System and Massachusetts Teachers Retirement System
- Retirement, disability and turnover depend on employee type
 - General employees
 - Public Safety
 - Teachers
- Mortality – includes mortality improvement

Summary of Key GASB 45 Results

(\$ in thousands)

Valuation Date	July 1, 2014	July 1, 2012
Discount Rate	4.50%	4.50%
Normal Cost	6,245	7,106
Actuarial Accrued Liability	172,745	195,943
Assets	1,720	1,317
Unfunded Actuarial Accrued Liability	171,025	194,626
ARC	17,027	19,375
Expected Benefit Payments	4,603	4,582

Town of Belmont – Results of the July 1, 2014 GASB 45 Valuation - December 21, 2015



Summary of Key GASB 45 Results

- Annual OPEB Cost (AOC) is sum of
 - Annual Required Contribution (ARC)
 - Interest on Net OPEB Obligation
 - Adjustment to ARC ~ amount included in ARC for amortization of past contribution deficiencies
- Net OPEB Obligation (NOO)
 - difference between AOC and Contributions
 - Cumulative difference disclosed on financial statements
 - June 30, 2014 = \$71.646 million
 - June 30, 2015 ~ \$82.630 million

Summary of Key GASB 45 Results

(\$ in thousands)

Gain / (Loss) Analysis	
Actuarial Accrued Liability, July 1, 2012	\$195,943
Expected Actuarial Accrued Liability, July 1, 2014	219,284
Actual Actuarial Accrued Liability, July 1, 2014	172,745
Gain due to demographic experience	(\$9,757)
Gain due to favorable premium rates	(49,487)
Gain due to change in participation rates	(5,771)
Loss due to demographic assumption changes	7,311
Loss due to PPACA excise "Cadillac" tax, effective 2018	11,166
Total (Gain) /Loss	\$(46,538)

Source: July 1, 2014 Actuarial Report, page 5.

Controlling OPEB Costs

- Belmont implemented cost-saving changes to health plans in 2012
- Medicare-eligible retirees
 - Belmont adopted Section 18 of Chapter 32B
 - required Medicare-eligible retirees to elect coverage in a Medicare health plan at age 65
 - Retirees contribute maximum (50%) allowed by law
- Pension Reform
 - Increases minimum retirement age
 - from age 55 to age 60 for post-April 1, 2012 hires
 - Delayed retirements generally reduce costs
 - Fewer years to provide retiree medical coverage while covering replacement employee
 - Takes many years for any savings to be realized

Controlling OPEB Liabilities

- Belmont contracts with KMS to perform biennial OPEB Valuations
 - Most recent valuation - July 1, 2014
 - Accrued Liability reduced by almost \$45 million from 2010 projections
 - Next valuation - July 1, 2016
- Belmont established OPEB Funding Policy in 2013
 - 5% of excess reserves
- Belmont established an Irrevocable OPEB Trust in 2010
 - Pre-fund retiree medical benefits
 - Contribution based on adopted contribution policy
 - Allows use of slightly higher blended discount rate
 - Current balance = \$2.4 million
- Belmont Retirement System annual appropriation
 - expected Retirement System full funding date is 2027
 - Assumption is to reallocate a portion of pension appropriation to OPEB Trust in 2028

New GASB Standard – GASB 75

Effective FY2018

- GASB recently issued new standards for OPEB that will significantly change the way employers report OPEB liabilities
- Effective for fiscal year ending June 30, 2018
- New definition of OPEB expense
 - change in net OPEB liability each year
 - deferred recognition of certain elements
- Net OPEB liability (OPEB liability minus market value of assets) is reported on employer's balance sheet
 - Projected future benefits
 - Entry age normal funding method
 - Method to allocate present value of future benefits between current and past
 - Market value of assets
 - Blended discount rate

New GASB Standard - GASB 75

Discount Rate

- Based on projected benefits, current assets and projected assets for current members
- For projected benefits that are covered by projected assets
 - Discount using the long-term expected rate of return on assets
- For projected benefits that are not covered by projected assets
 - Discount using yield or index rate for 20 year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher
 - Likely to be 3.5% - 4.0%, based on current indexes
 - Solve for a single rate that gives the same total present value
 - Use that single equivalent rate to calculate the OPEB liability
- For plans with assets, the derivation of the discount rate will require significant additional calculations by the actuary.

Belmont OPEB Liability Forecasts

- Projection of benefits based on July 1, 2014 GASB 45 valuation
- GASB 45 disclosures based on 4.5% discount rate (Table 4.1)
 - 30-year “open” amortization of UAAL
 - OPEB Trust contributions are insufficient to fully fund UAAL over 30 years
- Tables 4.2 – 4.4 assume alternate OPEB Trust funding scenarios

Table	Discount Rate	Amortization	OPEB Trust = Pay-As-You-Go (PAYG) Plus
4.1	4.5%	30 years, open	\$250,000 through 2027, \$14.75 million thereafter
4.2	4.5%/7.5%	30 years, closed	\$250,000 through 2027, ARC less PAYG thereafter
4.3	4.5%/7.5%	30 years, closed	\$2.75 million per year through 2027, ARC less PAYG thereafter
4.4	4.5%	30 years, open	\$2.75 million per year

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions
30-Year Forecast of Annual Required Contribution
Table 4.1

FYE June 30	(1) Normal Cost	(2) Actuarial Accrued Liability	(3) Expected Benefit Payments	(4) Actuarial Value of Assets	(5) Unfunded Actuarial Accrued Liability (2) - (4)	(6) Amortization Amount	(7) Interest	(8) ARC (1) + (6) + (7)	(9) OPEB Trust Contributions
2015	6,244,870	172,745,213	4,603,315	1,720,389	171,024,824	10,048,462	733,200	17,026,532	264,882
2016	6,432,216	182,338,887	4,937,465	1,960,254	180,378,633	10,598,040	766,362	17,796,618	250,000
2017	6,625,182	192,218,467	5,250,585	2,188,595	190,029,872	11,165,092	800,562	18,590,836	250,000
2018	6,823,937	202,424,190	5,648,574	2,420,244	200,003,946	11,751,113	835,877	19,410,927	250,000
2019	7,028,655	212,890,024	6,212,795	2,653,461	210,236,563	12,352,325	872,144	20,253,124	250,000
2020	7,239,515	223,463,975	6,552,945	2,884,617	220,579,358	12,960,009	908,979	21,108,503	250,000
2021	7,456,700	234,386,383	6,918,051	3,118,606	231,267,777	13,588,001	947,012	21,991,713	250,000
2022	7,680,401	245,654,027	7,368,687	3,355,000	242,299,027	14,236,136	986,244	22,902,781	250,000
2023	7,910,813	257,201,819	7,678,989	3,592,004	253,609,815	14,900,694	1,026,518	23,838,025	250,000
2024	8,148,137	269,192,835	8,074,996	3,832,768	265,360,067	15,591,073	1,068,264	24,807,474	250,000
2025	8,392,581	281,566,632	8,374,560	4,075,554	277,491,078	16,303,824	1,111,338	25,807,743	250,000
2026	8,644,358	294,446,463	8,744,906	4,322,600	290,123,863	17,046,055	1,156,069	26,846,482	250,000
2027	8,903,689	307,790,407	9,119,670	4,572,522	303,217,885	17,815,387	1,202,358	27,921,434	250,000
2028	9,170,800	321,622,726	9,550,087	4,825,351	316,797,375	18,613,242	1,250,282	29,034,324	14,750,000
2029	9,445,924	335,916,635	10,007,447	19,579,979	316,336,656	18,586,173	1,261,444	29,293,541	14,750,000
2030	9,729,302	350,673,737	10,350,910	34,988,388	315,685,349	18,547,905	1,272,474	29,549,681	14,750,000
2031	10,021,181	366,039,933	10,853,702	51,082,533	314,957,400	18,505,135	1,283,684	29,810,000	14,750,000
2032	10,321,816	381,888,641	11,209,842	67,889,726	313,998,915	18,448,820	1,294,679	30,065,315	14,750,000
2033	10,631,470	398,400,640	11,652,417	85,445,318	312,955,322	18,387,504	1,305,854	30,324,828	14,750,000
2034	10,950,414	415,526,844	11,927,308	103,781,063	311,745,781	18,316,438	1,317,008	30,583,860	14,750,000
2035	11,278,926	433,476,015	12,391,680	122,935,799	310,540,216	18,245,606	1,328,604	30,853,136	14,750,000
2036	11,617,294	452,101,489	12,814,925	142,942,165	309,159,324	18,164,473	1,340,180	31,121,947	14,750,000
2037	11,965,813	471,486,040	13,154,948	163,839,399	307,646,641	18,075,596	1,351,863	31,393,272	14,750,000
2038	12,324,787	491,759,509	13,710,349	185,669,443	306,090,066	17,984,140	1,363,902	31,672,829	14,750,000
2039	12,694,531	512,752,652	14,387,275	208,469,480	304,283,172	17,877,977	1,375,763	31,948,271	14,750,000
2040	13,075,367	534,384,880	15,028,179	232,280,455	302,104,425	17,749,966	1,387,140	32,212,473	14,750,000
2041	13,467,628	556,733,366	15,461,886	257,148,662	299,584,704	17,601,922	1,398,130	32,467,680	14,750,000
2042	13,871,657	580,054,088	15,996,555	283,126,287	296,927,801	17,445,817	1,409,286	32,726,760	14,750,000
2043	14,287,807	604,299,887	16,718,589	310,261,008	294,038,879	17,276,080	1,420,375	32,984,262	14,750,000
2044	14,716,441	629,333,522	17,259,272	338,600,724	290,732,798	17,081,833	1,430,922	33,229,196	14,750,000
2045	15,157,934	655,388,878	17,566,201	368,203,696	287,185,182	16,873,395	1,441,410	33,472,739	14,750,000

Assumptions:

Discount rate	4.5%
Amortization period:	30
Amortization type:	open - amortization of unfunded liability is over 30 years, each year (OPEB Trust contributions are insufficient to fully fund the UAAL in 30 years)
OPEB Trust funding:	Pay-as-you-go, plus \$250,000 OPEB Trust contributions through 2027, \$14.75 million thereafter

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions
30-Year Forecast of Annual Required Contribution
Table 4.2

FYE June 30	(1) Normal Cost	(2) Actuarial Accrued Liability	(3) Expected Benefit Payments	(4) Actuarial Value of Assets	(5) Unfunded Actuarial Accrued Liability (2) - (4)	(6) Amortization Amount	(7) Interest	(8) ARC (1) + (6) + (7)	(9) OPEB Trust Contributions
2015	6,244,870	172,745,213	4,603,315	1,720,389	171,024,824	10,048,462	733,200	17,026,532	264,882
2016	6,432,216	182,338,887	4,937,465	1,960,254	180,378,633	10,775,307	774,339	17,981,862	250,000
2017	6,625,182	192,218,467	5,250,585	2,188,595	190,029,872	11,551,968	817,972	18,995,122	250,000
2018	6,823,937	202,424,190	5,648,574	2,420,244	200,003,946	12,384,145	864,364	20,072,446	250,000
2019	7,028,655	212,890,024	6,212,795	2,653,461	210,236,563	13,280,895	913,930	21,223,480	250,000
2020	7,239,515	223,463,975	6,552,945	2,884,617	220,579,358	14,230,926	966,170	22,436,611	250,000
2021	7,456,700	234,386,383	6,918,051	3,118,606	231,267,777	15,265,200	1,022,486	23,744,386	250,000
2022	7,680,401	245,654,027	7,368,687	3,355,000	242,299,027	16,393,710	1,083,335	25,157,446	250,000
2023	7,910,813	257,201,819	7,678,989	3,592,004	253,609,815	17,611,793	1,148,517	26,671,123	250,000
2024	8,148,137	269,192,835	8,074,996	3,832,768	265,360,067	18,940,761	1,219,000	28,307,898	250,000
2025	8,392,581	281,566,632	8,374,560	4,075,554	277,491,078	20,418,770	1,296,511	30,107,862	250,000
2026	8,644,358	294,446,463	8,744,906	4,322,600	290,123,863	22,045,886	1,381,061	32,071,305	250,000
2027	8,903,689	307,790,407	9,119,670	4,572,522	303,217,885	23,856,639	1,474,215	34,234,543	250,000
2028	3,926,651	198,101,408	9,550,087	4,825,351	193,276,057	19,060,755	1,724,055	24,711,461	15,161,374
2029	4,044,451	207,278,422	10,007,447	19,996,972	187,281,450	19,052,030	1,732,236	24,828,717	14,821,270
2030	4,165,785	216,796,147	10,350,910	35,949,520	180,846,627	19,056,547	1,741,675	24,964,007	14,613,097
2031	4,290,759	226,802,025	10,853,702	52,877,689	173,924,336	19,049,763	1,750,539	25,091,061	14,237,359
2032	4,419,482	237,171,385	11,209,842	70,681,219	166,490,166	19,049,218	1,760,153	25,228,853	14,019,011
2033	4,552,066	248,087,570	11,652,417	89,588,552	158,499,018	19,050,363	1,770,182	25,372,611	13,720,194
2034	4,688,628	259,506,126	11,927,308	109,598,821	149,907,305	19,072,176	1,782,060	25,542,864	13,615,556
2035	4,829,287	271,642,864	12,391,680	130,995,100	140,647,764	19,057,963	1,791,544	25,678,794	13,287,114
2036	4,974,166	284,359,595	12,814,925	153,650,559	130,709,036	19,053,795	1,802,097	25,830,058	13,015,133
2037	5,123,391	297,746,996	13,154,948	177,717,612	120,029,384	19,052,283	1,813,176	25,988,850	12,833,902
2038	5,277,093	311,946,326	13,710,349	203,395,943	108,550,383	19,077,396	1,826,587	26,181,076	12,470,727
2039	5,435,406	326,799,983	14,387,275	230,616,522	96,183,461	19,046,230	1,836,123	26,317,759	11,930,484
2040	5,598,468	342,235,999	15,028,179	259,313,476	82,922,523	19,062,649	1,849,584	26,510,701	11,482,522
2041	5,766,422	358,340,504	15,461,886	289,691,140	68,649,364	19,069,268	1,862,677	26,698,367	11,236,481
2042	5,939,415	375,383,721	15,996,555	322,085,118	53,298,603	19,035,215	1,873,097	26,847,727	10,851,172
2043	6,117,597	393,336,790	16,718,589	356,503,648	36,833,142	19,084,530	1,890,160	27,092,287	10,373,698
2044	6,301,125	412,079,264	17,259,272	392,999,507	19,079,757	19,079,757	1,903,566	27,284,448	10,025,176
2045	6,490,159	431,864,123	17,566,201	431,864,123	-	-	-	6,490,159	-

Assumptions:

Discount rate	4.5% through 2027; increase discount rate in 2028 to 7.5% as a result of increased OPEB Trust contributions in 2028 and later
Amortization period:	30
Amortization type:	closed (amortization period and method fully pays the Unfunded Actuarial Accrued Liability after 30 years)
OPEB Trust funding:	Pay-as-you-go, plus \$250,000 OPEB Trust contributions through 2027
	Annual Required Contribution (ARC) less expected benefit payments thereafter

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions
30-Year Forecast of Annual Required Contribution
Table 4.3

FYE June 30	(1) Normal Cost	(2) Actuarial Accrued Liability	(3) Expected Benefit Payments	(4) Actuarial Value of Assets	(5) Unfunded Actuarial Accrued Liability (2) - (4)	(6) Amortization Amount	(7) Interest	(8) ARC (1) + (6) + (7)	(9) OPEB Trust Contributions
2015	6,244,870	172,745,213	4,603,315	1,720,389	171,024,824	10,048,462	733,200	17,026,532	264,882
2016	6,432,216	182,338,887	4,937,465	1,960,254	180,378,633	10,775,307	774,339	17,981,862	2,750,000
2017	6,625,182	192,218,467	5,250,585	4,688,595	187,529,872	11,399,992	811,133	18,836,307	2,750,000
2018	6,823,937	202,424,190	5,648,574	7,532,744	194,891,446	12,067,582	850,118	19,741,637	2,750,000
2019	7,028,655	212,890,024	6,212,795	10,496,023	202,394,001	12,785,471	891,636	20,705,762	2,750,000
2020	7,239,515	223,463,975	6,552,945	13,580,094	209,883,881	13,540,896	935,118	21,715,529	2,750,000
2021	7,456,700	234,386,383	6,918,051	16,795,379	217,591,004	14,362,443	981,861	22,801,004	2,750,000
2022	7,680,401	245,654,027	7,368,687	20,147,228	225,506,799	15,257,564	1,032,208	23,970,173	2,750,000
2023	7,910,813	257,201,819	7,678,989	23,639,882	233,561,937	16,219,579	1,085,868	25,216,260	2,750,000
2024	8,148,137	269,192,835	8,074,996	27,282,801	241,910,034	17,266,955	1,143,679	26,558,771	2,750,000
2025	8,392,581	281,566,632	8,374,560	31,080,839	250,485,793	18,431,626	1,207,089	28,031,296	2,750,000
2026	8,644,358	294,446,463	8,744,906	35,043,123	259,403,340	19,711,500	1,276,014	29,631,872	2,750,000
2027	8,903,689	307,790,407	9,119,670	39,175,468	268,614,939	21,134,142	1,351,702	31,389,533	2,750,000
2028	3,926,651	198,101,408	9,550,087	43,485,429	154,615,979	15,248,124	1,438,108	20,612,883	11,062,796
2029	4,044,451	207,278,422	10,007,447	57,457,978	149,820,444	15,241,144	1,446,420	20,732,015	10,724,568
2030	4,165,785	216,796,147	10,350,910	72,123,399	144,672,748	15,244,757	1,455,791	20,866,333	10,515,423
2031	4,290,759	226,802,025	10,853,702	87,666,935	139,135,090	15,239,331	1,464,757	20,994,847	10,141,145
2032	4,419,482	237,171,385	11,209,842	103,983,444	133,187,941	15,238,895	1,474,378	21,132,755	9,922,913
2033	4,552,066	248,087,570	11,652,417	121,292,346	126,795,224	15,239,811	1,484,391	21,276,268	9,623,851
2034	4,688,628	259,506,126	11,927,308	139,584,057	119,922,069	15,257,261	1,495,942	21,441,831	9,514,523
2035	4,829,287	271,642,864	12,391,680	159,128,196	112,514,668	15,245,890	1,505,638	21,580,815	9,189,135
2036	4,974,166	284,359,595	12,814,925	179,795,658	104,563,937	15,242,556	1,516,254	21,732,976	8,918,051
2037	5,123,391	297,746,996	13,154,948	201,726,511	96,020,485	15,241,347	1,527,355	21,892,093	8,737,145
2038	5,277,093	311,946,326	13,710,349	225,108,752	86,837,574	15,261,437	1,540,390	22,078,920	8,368,571
2039	5,435,406	326,799,983	14,387,275	249,855,636	76,944,347	15,236,504	1,550,393	22,222,303	7,835,028
2040	5,598,468	342,235,999	15,028,179	275,900,067	66,335,932	15,249,640	1,563,608	22,411,716	7,383,537
2041	5,766,422	358,340,504	15,461,886	303,422,740	54,917,764	15,254,934	1,576,602	22,597,958	7,136,072
2042	5,939,415	375,383,721	15,996,555	332,746,179	42,637,542	15,227,694	1,587,533	22,754,642	6,758,087
2043	6,117,597	393,336,790	16,718,589	363,871,203	29,465,587	15,267,144	1,603,856	22,988,597	6,270,008
2044	6,301,125	412,079,264	17,259,272	396,815,938	15,263,326	15,263,326	1,617,334	23,181,785	5,922,513
2045	6,490,159	431,864,123	17,566,201	431,864,123	-	-	-	6,490,159	-

Assumptions:

Discount rate	4.5% through 2027; increase discount rate in 2028 to 7.5% as a result of increased OPEB Trust contributions in 2028 and later
Amortization period:	30
Amortization type:	closed (amortization period and method fully pays the Unfunded Actuarial Accrued Liability after 30 years)
OPEB Trust funding:	Pay-as-you-go, plus \$2.75 Million OPEB Trust contributions through 2027
	Annual Required Contribution (ARC) less expected benefit payments thereafter

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions
30-Year Forecast of Annual Required Contribution
Table 4.4

FYE June 30	(1) Normal Cost	(2) Actuarial Accrued Liability	(3) Expected Benefit Payments	(4) Actuarial Value of Assets	(5) Unfunded Actuarial Accrued Liability (2) - (4)	(6) Amortization Amount	(7) Interest	(8) ARC (1) + (6) + (7)	(9) OPEB Trust Contributions
2015	6,244,870	172,745,213	4,603,315	1,720,389	171,024,824	10,048,462	733,200	17,026,532	264,882
2016	6,432,216	182,338,887	4,937,465	1,960,254	180,378,633	10,598,040	766,362	17,796,618	2,750,000
2017	6,625,182	192,218,467	5,250,585	4,688,595	187,529,872	11,018,206	793,952	18,437,340	2,750,000
2018	6,823,937	202,424,190	5,648,574	7,532,744	194,891,446	11,450,731	822,360	19,097,028	2,750,000
2019	7,028,655	212,890,024	6,212,795	10,496,023	202,394,001	11,891,539	851,409	19,771,603	2,750,000
2020	7,239,515	223,463,975	6,552,945	13,580,094	209,883,881	12,331,603	880,700	20,451,818	2,750,000
2021	7,456,700	234,386,383	6,918,051	16,795,379	217,591,004	12,784,430	910,851	21,151,981	2,750,000
2022	7,680,401	245,654,027	7,368,687	20,147,228	225,506,799	13,249,518	941,846	21,871,765	2,750,000
2023	7,910,813	257,201,819	7,678,989	23,639,882	233,561,937	13,722,793	973,512	22,607,118	2,750,000
2024	8,148,137	269,192,835	8,074,996	27,282,801	241,910,034	14,213,280	1,006,264	23,367,681	2,750,000
2025	8,392,581	281,566,632	8,374,560	31,080,839	250,485,793	14,717,144	1,039,938	24,149,663	2,750,000
2026	8,644,358	294,446,463	8,744,906	35,043,123	259,403,340	15,241,089	1,074,845	24,960,292	2,750,000
2027	8,903,689	307,790,407	9,119,670	39,175,468	268,614,939	15,782,311	1,110,870	25,796,870	2,750,000
2028	9,170,800	321,622,726	9,550,087	43,485,429	278,137,297	16,341,792	1,148,067	26,660,659	2,750,000
2029	9,445,924	335,916,635	10,007,447	47,979,761	287,936,874	16,917,560	1,186,357	27,549,841	2,750,000
2030	9,729,302	350,673,737	10,350,910	52,666,160	298,007,577	17,509,258	1,225,735	28,464,295	2,750,000
2031	10,021,181	366,039,933	10,853,702	57,555,804	308,484,129	18,124,802	1,266,569	29,412,552	2,750,000
2032	10,321,816	381,888,641	11,209,842	62,654,294	319,234,347	18,756,425	1,308,521	30,386,762	2,750,000
2033	10,631,470	398,400,640	11,652,417	67,974,291	330,426,349	19,414,004	1,352,046	31,397,520	2,750,000
2034	10,950,414	415,526,844	11,927,308	73,523,840	342,003,004	20,094,184	1,397,007	32,441,605	2,750,000
2035	11,278,926	433,476,015	12,391,680	79,317,001	354,159,014	20,808,403	1,443,930	33,531,259	2,750,000
2036	11,617,294	452,101,489	12,814,925	85,360,521	366,740,968	21,547,648	1,492,422	34,657,364	2,750,000
2037	11,965,813	471,486,040	13,154,948	91,666,581	379,819,459	22,316,067	1,542,685	35,824,565	2,750,000
2038	12,324,787	491,759,509	13,710,349	98,248,848	393,510,661	23,120,485	1,595,037	37,040,309	2,750,000
2039	12,694,531	512,752,652	14,387,275	105,114,958	407,637,694	23,950,511	1,649,027	38,294,069	2,750,000
2040	13,075,367	534,384,880	15,028,179	112,274,979	422,109,901	24,800,817	1,704,428	39,580,612	2,750,000
2041	13,467,628	556,733,366	15,461,886	119,742,940	436,990,426	25,675,113	1,761,423	40,904,164	2,750,000
2042	13,871,657	580,054,088	15,996,555	127,537,308	452,516,780	26,587,355	1,820,656	42,279,668	2,750,000
2043	14,287,807	604,299,887	16,718,589	135,670,525	468,629,362	27,534,040	1,881,983	43,703,830	2,750,000
2044	14,716,441	629,333,522	17,259,272	144,153,670	485,179,852	28,506,454	1,945,030	45,167,925	2,750,000
2045	15,157,934	655,388,878	17,566,201	153,006,525	502,382,353	29,517,177	2,010,380	46,685,491	2,750,000

Assumptions:

Discount rate	4.5%
Amortization period:	30
Amortization type:	open - amortization of unfunded liability is over 30 years, each year (OPEB Trust contributions are insufficient to fully fund the UAAL in 30 years)
OPEB Trust funding:	Pay-as-you-go, plus \$2.75 million OPEB Trust contributions per year

Questions?

